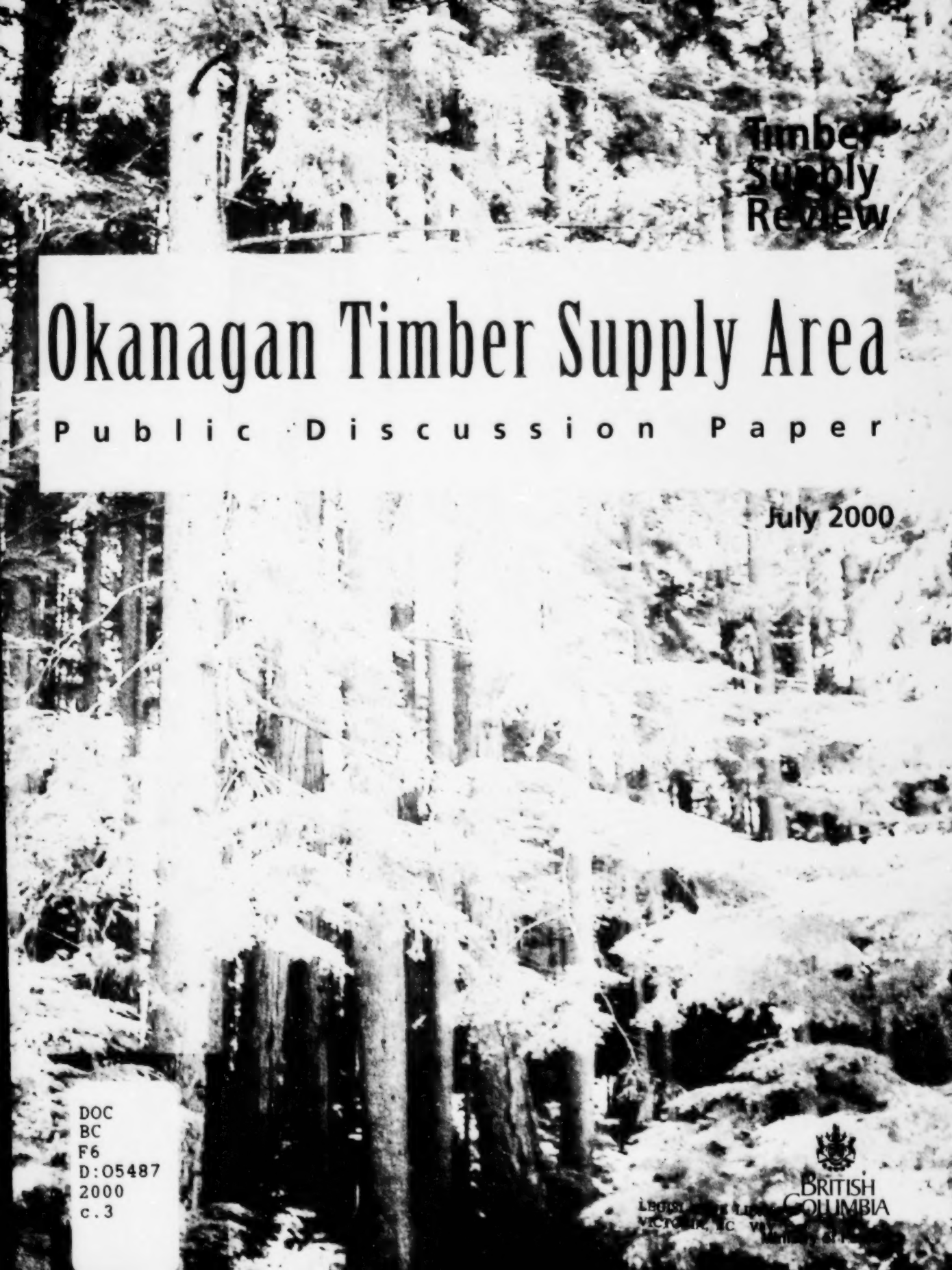

Timber Supply Review

Okanagan Timber Supply Area

Public Discussion Paper

July 2000

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Introduction

The British Columbia Forest Service is reviewing the timber supply for all timber supply areas (TSAs) and tree farm licences (TFLs) in the province. This review examines the impacts of current forest management practices on the timber supply, economy, environment and social conditions of the local area and the province. Based on this review, the chief forester may, if necessary, adjust the allowable annual cut (AAC) for the Okanagan TSA.

By law, the chief forester must review and set new AACs for all TSAs and TFLs every five years. The objectives of the Timber Supply Review are:

- to identify relevant current forest management practices and assess their effects on short- and long-term timber supply, and identify related economic, environmental and social factors
- to identify where improved information is required for future timber supply forecasts
- to provide the chief forester with information to make any necessary adjustments to the AACs for the next five years

Timber Supply Review in the Okanagan TSA

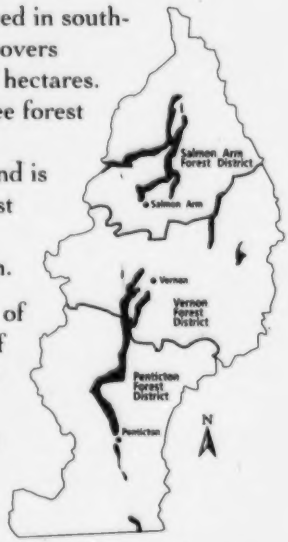
The *Okanagan TSA Data Package* and *Information Report* were released in June 1999. Following the release, the documents were reviewed by licensees, the public and government agencies. The B.C. Forest Service has now completed the *2000 Okanagan TSA Analysis Report* which is summarized in this discussion paper. The objectives of this document are to provide British Columbians with an overview of the Timber Supply Review process and harvest level forecasts for the Okanagan TSA and to encourage them to provide comments during the 60-day public review period. Public comments will be accepted until September 11, 2000.

Figure 1. *Review process for the Okanagan TSA*

Before setting a new AAC, the chief forester will review all relevant reports and public input. The chief forester's determination will be outlined in a rationale statement, which along with the summary of public input, will be available to the public upon release. Following the release of the AAC determination by the chief forester, the minister of forests will apportion the AAC to the various licences and programs.

Description of the TSA

The Okanagan TSA, situated in south-central British Columbia, covers approximately 2.25 million hectares. The TSA encompasses three forest districts (see map) in the Kamloops Forest Region and is administered from the forest district offices in Salmon Arm, Vernon and Penticton.



The Okanagan TSA is one of the fastest-growing areas of the province. According to the 1996 census, the population of the TSA was about 313,000 people, an increase of almost 20 per cent since 1991. Almost one-half of the population lives in the three largest centres of Kelowna, Vernon and Penticton.

The natural resources

The forests of the Okanagan TSA provide a wide range of forest land resources, including timber, forage, water, fisheries, wildlife, scenic landscapes and recreation opportunities.

**** A timber supply area is an integrated resource management unit established in accordance with section 7 of the Forest Act.***

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The TSA is approximately 320 kilometres long and 140 kilometres wide, and stretches from the Seymour River/Shuswap Lake in the north to the Canada/U.S. border in the south, and from the Monashee Mountains in the east to the Okanagan Mountains in the west. The interaction of climate and terrain produces a wide range of vegetation, from wet interior hemlock and cedar forests in the north to semi-arid sagebrush grasslands in the south. The forests of the Okanagan TSA are very diverse, however lodgepole pine and Douglas-fir are the dominant species.

The diverse forests and landscapes of the Okanagan TSA are home to a wide variety of wildlife species. The TSA also contains a number of ecosystems that are either unique to this area or that have very limited distribution provincially. Currently 66 species considered at risk or regionally significant occur in the Okanagan TSA. As well, a number of species have been identified as requiring special habitat management, such as bull trout, rubber boa, American bittern, northern goshawk, grizzly bear, fisher and mountain goat.

Both residents and tourists enjoy outdoor recreation activities such as hiking, camping, hunting, fishing, wildlife watching, snowmobiling, and cross-country, telemark and heli-skiing. In addition, three major ski hills are located in the TSA.

The current timber harvesting land base in the Okanagan TSA represents about 47 per cent of the total TSA area and about 73 per cent of the productive forest land. Approximately 44 per cent of the timber harvesting land base is comprised of forests older than 100 years.

Land-use planning

The Okanagan/Shuswap Land and Resource Management planning process began in 1995, and is now near the final agreement stage. The planning area covers the Okanagan TSA and includes tree farm licences 15, 33 and 49. The planning process provides an opportunity for the public, interest groups and government to make recommendations regarding new protected areas and future management of public forest lands in the planning area.

Substantial agreement has been reached on most of the protected area recommendations and on many sections of the draft plan. Discussions are now ongoing regarding biodiversity, mule deer winter range and riparian management, with the goal of reaching overall agreement-in-principle by summer 2000. A series of open houses will be held before final ratification of the plan later this year. If the recommendations are finalized before the chief forester makes an allowable annual cut determination, then they will be considered in the upcoming decision.

Current allowable annual cut

In November 1995, the chief forester set the current allowable annual cut for the Okanagan TSA at 2,615,000 cubic metres. This level was unchanged from the previous determination.

Socio-economic profile

Regional economy

Overall, the communities in the Okanagan TSA are economically well-diversified, relying on agriculture, forestry, tourism, manufacturing and the retirement industry. The three largest cities have all developed as regional commercial and administrative centres.

As Figure 2 shows, the major employment sectors in the Okanagan TSA are the public sector, forestry, construction and tourism.

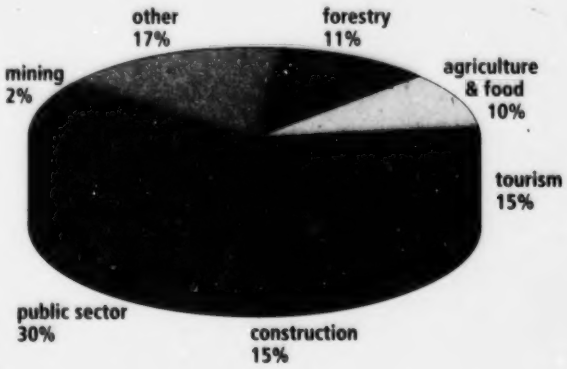

Figure 2. *Total employment by sector for the Okanagan TSA, 1996*

Notes: Percentages include direct, indirect and induced employment. "Other" consists of transportation and some manufacturing.

Source: The Forest District Tables 1996, BC Ministry of Finance and Corporate Relations

The forestry sector supports numerous other jobs in the area through companies and employees purchasing goods and services from local businesses. Each 100 full-time direct forestry jobs in the Okanagan TSA are estimated to support another 33 to 67 jobs, depending on the forestry activity (harvesting or timber processing). In comparison, 100 direct jobs

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in the public sector support an estimated 16 indirect and induced jobs, and 100 tourism jobs support an additional seven positions.

Summary of local and provincial economic impacts

(Figures are based on the allowable annual cut of 2.6 million cubic metres and are net of taxes)

	TSA	Provincial
Direct employment (person years)	3,259	3,644
Total employment (person years)	5,411	8,069
Total employment income ($1998 millions per year)	$163	$235
Provincial government revenues ($1998 millions per year)	n.a.	$115

Table 1. *Summary of local and provincial economic information associated with the current AAC*

Table 1 illustrates the potential contribution of the forest industry associated with the Okanagan TSA timber harvest to both the regional and provincial economies.

Timber supply forecasts

A timber supply computer model was used to project several possible timber supply forecasts for the next 250 years. One of these forecasts is the base case forecast which illustrates the effect of current forest management on timber supply. The base case is not an AAC recommendation, but rather, it is one of many sources of information the chief forester will consider when setting the AAC.

The base case forecast is presented in this report for discussion and comparison; due to areas of uncertainty, the AAC determined by the chief forester may be greater or less than the level forecast in the base case.

The base case timber supply forecast for the Okanagan TSA indicates that the current AAC of 2,615,000 cubic metres could be maintained for the next 140 years. The long-term harvest level is 2,260,000 cubic metres per year, 14 per cent less than the current harvest level.

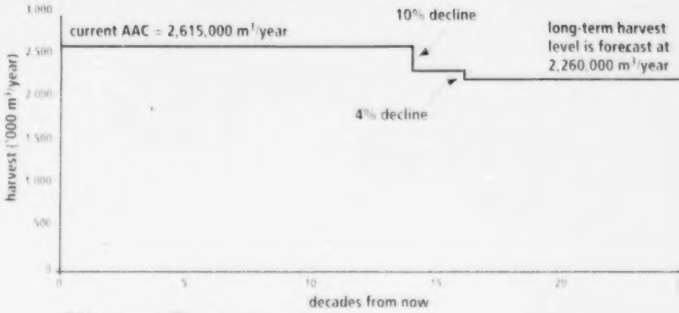

Figure 3. *Base case timber supply forecast for Okanagan TSA, 2000*

Compared to the 1995 timber supply analysis, several changes have occurred in the Okanagan TSA that affect the base case timber supply forecast. Implementation of the Forest Practices Code has reduced the timber harvesting land base due to riparian areas and volume reductions for wildlife tree patches. As well, old-growth forest requirements have affected timber availability. However, this is somewhat offset by a 3.2 per cent increase in the size of the timber harvesting land base, due to a smaller reduction for problem forest types and roads, trails and landings.

Sensitivity analyses: examining uncertainty

Because forests are complex and constantly changing, timber supply analysts assess how their timber supply forecast results might be affected by uncertainties in the inventory information and management practices. These uncertainties are generally examined in sensitivity analyses, which the chief forester will consider in determining an AAC. The sensitivity analyses are useful for assessing how any changes in information, or uncertainties and risks might affect timber supply.

In the Okanagan TSA, a number of sensitivity analyses were conducted to examine the stability of the timber supply. These analyses showed that in the short term, the base case timber supply forecast is stable and not likely to be affected by uncertainties in data and management. The stability of the base case forecast means that changes or uncertainty about data can be accommodated to a large extent without impacting the timber supply in the short term.

Two important sensitivity analyses are described below. For a complete listing of sensitivity analyses, please refer to the *2000 Okanagan TSA Analysis Report*.

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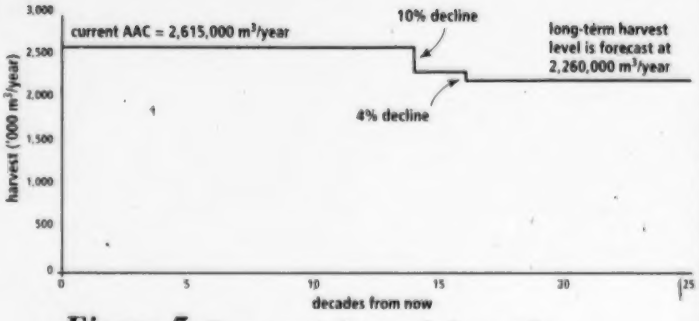

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Two important sensitivity analyses are described below. For a complete listing of sensitivity analyses, please refer to the *2000 Okanagan TSA Analysis Report.*

Uncertainty in the size of the timber harvesting land base

Determining the size of the timber harvesting land base — after reflecting environmental objectives — involves complex considerations and projections about the future. For the Okanagan TSA, there is some uncertainty about the size of the timber harvesting land base due to factors such as changes in timber prices, estimates of riparian habitat and proposals for new parks.

As Figure 4 shows, if the timber harvesting land base has been overestimated by five per cent, then the initial harvest level is forecast for 90 years before it starts to decline.

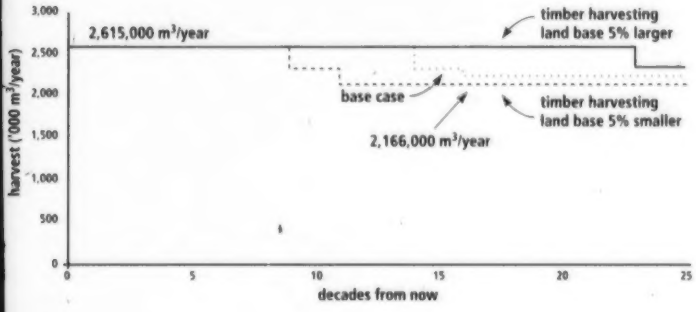

Figure 4. *Uncertainty about the size of the timber harvesting land base — Okanagan TSA, 2000*

If the timber harvesting land base has been underestimated by five per cent, then the initial harvest level can be maintained for over 200 years.

Uncertainty in old-growth site index estimates

The results of two recent provincial studies suggest that the estimated future productivity of sites currently occupied by old-growth stands may be underestimated. This research has shown that the measured productivity of existing second-growth stands is higher than the measured productivity of old-growth stands growing on ecologically-similar sites. These results are based on the maximum potential site productivity that might be achieved under ideal conditions. However, in the field, regeneration and subsequent growth does not always occur under ideal conditions due to factors such as competition from brush or overstocking. Therefore, some stands may not reach the potential productivity suggested by research.

The results of these studies are of particular interest to the Okanagan timber supply area, as stands older than 140 years make up 35 per cent of the timber harvesting land base. The old-growth site index adjustments from provincial studies indicate that the long-term harvest level could be 24 per cent higher than the base case forecast. However, there are no local studies to verify the application of the results of the provincial studies to the Okanagan timber supply area.

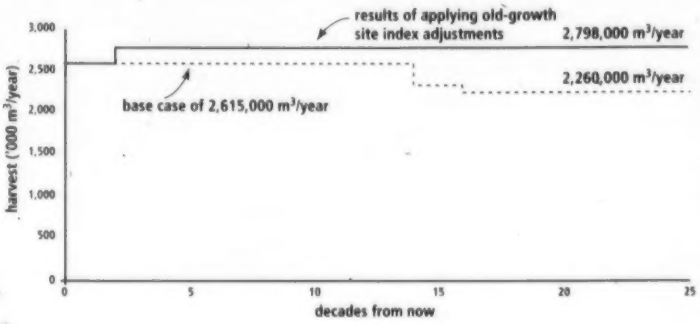

Figure 5. *Harvest forecast based on provincial old-growth site index adjustments — Okanagan TSA, 2000*

Implications of changes in the AAC

Environmental Implications

Current forest management follows the standards set out by the Forest Practices Code. These standards are designed to maintain a range of biodiversity and wildlife values. In the Okanagan TSA analysis area, about 27 per cent of the productive forest is not considered available for timber harvesting and will provide for many environmental values. Forested area both in and outside of the timber harvesting land base will aid in the maintenance of critical forest habitats for many species. Forest cover requirements for biodiversity, visual quality, ungulate winter range, and community watersheds were included in the analysis.

First Nations

Eleven First Nations bands reside in the Okanagan TSA, with a total population of about 4,500. Seven Okanagan Nation member bands (Lower Similkameen, Upper Similkameen, Osoyoos, Penticton, Westbank, Okanagan and the Upper Nicola) are affiliated with the Okanagan Nation Alliance and two Shuswap Nation bands (Adams Lake and Neskonlith) belong to the Shuswap Nation Tribal Council. The Little Shuswap and Spallumacheen Indian bands are independent bands, but are considered part of the Shuswap Nation Community. The Upper Nicola Band is considered

part of the Okanagan Nation Alliance as well as the Nicola Tribal Association.

First Nations in the Okanagan TSA are quite involved in forestry, and have expressed interest in being involved in a full range of forestry activities including silviculture, harvesting, watershed restoration and technical work. The Adams Lake, Neskonlith, Little Shuswap, Spallumcheen, Westbank and Osoyoos bands have woodlots within the Okanagan TSA. The Upper Similkameen Band has a woodlot in the adjacent Merritt TSA. These bands, plus the Okanagan Band, have also been involved with the Small Business Forest Enterprise Program.

Community Implications

The implication of changes in the AAC for local communities is an important consideration in the Timber Supply Review. The base case harvest forecast for the Okanagan TSA suggests the current AAC of 2,615,000 cubic metres can be maintained for 140 years. If the AAC is maintained at the current level, and fully harvested, no employment or other industry-related changes would occur in the Okanagan TSA forestry sector as a result of the Timber Supply Review.

Your input is needed

Establishing the AAC is an important decision that requires well-informed and thoughtful public input. Feedback is welcomed on any aspect of this discussion paper, the *2000 Okanagan TSA Analysis Report* and other issues related to the timber supply in the Okanagan TSA. Forest Service staff would be pleased to answer questions or discuss concerns that would help you prepare your response. Please send your comments to the forest district manager at the address below. Your comments will be accepted until September 11, 2000.

You may identify yourself on the response if you wish. If you do, you are reminded that responses will be subject to the *Freedom of Information and Protection of Privacy Act* and may be made public. If the responses are made public, personal identifiers will be removed before the responses are released.

A summary of public comments will be attached to the AAC rationale and will be available from the district office when the chief forester's AAC determination is announced.

For more information contact and/or mail your comments to:

District Manager
BC Forest Service
Vernon Forest District
2501 14th Ave.
Vernon, BC V1T 8Z1
Phone: (250) 558-1700, Fax: (250) 549-5485

District Manager
BC Forest Service
Penticton Forest District
102 Industrial Place
Penticton, BC V2A 7C8
Phone: (250) 490-2200, Fax: (250) 490-2255

District Manager
BC Forest Service
Salmon Arm Forest District
850 16th St. NE
100 Station Main,
Salmon Arm, BC V1E 4S4
Phone: (250) 833-3400, Fax: (250) 833-3399

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Background Information Regarding TSR

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The Chief Forester's Responsibility

Determining the allowable annual cuts (AACs) for public forest lands in British Columbia is the responsibility of the province's chief forester. In this lengthy and complex process, the chief forester considers technical reports, analyses and public input, as well as government's social and economic objectives.

This responsibility is required by legislation in the *Forest Act, Section 8.* It states that the chief forester shall specifically consider the following factors:

1. The rate of timber production that may be sustained from the area, taking into account:
   - the composition of the forest and its expected rate of growth
   - the time that it will take the forest to become re-established
   - silviculture treatments, including reforestation
   - standards of timber utilization
   - constraints on the amount of timber that may be produced due to use of the forest for other purposes.
2. The short- and long-term implications to the province of alternative rates of timber harvesting from the area.
3. The nature, production capabilities and timber requirements of established and proposed processing facilities.
4. The economic and social objectives of the Crown for the area, region and province—as expressed by the minister of forests.
5. Abnormal insect or disease infestations, and major salvage programs planned for the timber on the area.

Some of these factors can be measured and analyzed—others cannot. Ultimately, the chief forester's determination is an independent professional judgment based on the best available information. By law, the chief forester is independent of the political process, and is not directed by the minister of forests when determining AACs. In these determinations, the chief forester considers relevant information from all sources.

Why the current AAC may be higher than the long-term harvest level.

Some concern has been expressed that the AACs are higher than the long-term harvest level. There are two main factors which explain this difference:

- In the short term, harvesting takes place in older forests which have accumulated high timber volumes by growing for a long time. Future harvesting on the same sites will take place in second-growth forests at younger ages, yielding lower volumes per hectare.
- Where the long-term harvest level is significantly below the current AAC, the chief forester's strategy is to gradually reduce AACs in a managed transition to the lower level over several decades—provided the long-term harvest level is not jeopardized. This allows communities that rely on the forest sector to avoid sudden economic disruptions and to plan for the future.